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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,838	12/15/2005	Daisuke Kanenari	OGW-0407	3726

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EXAMINER	
KNABLE, GEOFFREY L	
ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,838	KANENARI, DAISUKE	
	Examiner	Art Unit	
	Geoffrey L. Knable	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/15/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 6, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bottasso et al. (US 3,713,929).

Bottasso et al. discloses a tire building drum (1) that is expandable/contractible and includes heating means that can heat a surface of the drum - note that heating fluid circulates through passages (3). Plural drum segments, that would have been understood as metal, are also suggested.

4. Claims 6-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caretta et al. (US 6,409,959) taken in view of Caretta (US 6,332,999).

Caretta et al. (hereafter Caretta '959) discloses a tire building drum (14) that can be heated (e.g. col. 9, lines 20-25; 55-61). Specifics of the drum are not however

described and as such, it is not explicitly described as expandable/contractible. Caretta '999 is directed to a very similar process (and in fact is mentioned as one suitable extension of the Caretta '959 process at col. 10, lines 27-35 of Caretta '959) and provides more detail of the drum/support and in particular indicates that it is "conveniently made up of a collapsible drum" (col. 5, lines 13-21). To form the drum/support (14) of Caretta '959 as a "collapsible drum" would therefore have been obvious and lead to only the expected results, namely easier removal of the completed tire. A tire building machine/drum as required by claim 6 would therefore have been obvious. As to claims 7 and 8, electric heating or infrared heating are suggested by Caretta '959 (col. 9, lines 20-22 and 55-61). As to claim 11, the drum is taught to be metal (e.g. col. 5, lines 14-15 of Caretta '999).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caretta et al. (US 6,409,959) taken in view of Caretta (US 6,332,999) as applied above, and further in view of Hesse (US 5,944,926).

As already noted, Caretta '959 suggests that the drum/support can be preheated with infrared. To color the drum black would have been obvious as the artisan is considered to have been well aware of the relative absorption characteristics of different colors. Hesse has been cited as additional evidence that the ordinary artisan would have understood that infrared will not effectively heat light colored surfaces - note col. 4, lines 30-37.

6. Claims 1, 3, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caretta et al. (US 6,409,959) taken in view of at least one of [Kaido et al. (US 6,136,123), Hashimura et al. (US 2002/0033557) and the admitted state of the prior art].

Caretta et al. '959 discloses a method of manufacturing a pneumatic tire having an innerliner comprising the steps of: heating a surface of a tire building drum in advance (note col. 9, lines 20-22 suggests preheating the drum/support); placing the innerliner (reads on either the layer designated as a polymeric "primer" and/or the intermediate layer and/or the liner) on the heated surface of the tire building drum, the innerliner being cylindrically shaped, disposing uncured tire components radially outwardly of the innerliner to form a green tire (col. 9, lines 48-54); and curing the green tire. As to the innerliner being formed of a thermoplastic elastomer with an adhesive outward thereof, Caretta et al. '959 suggests various materials for the liner layers and even suggests that the liner can be formed from materials selected "from those known in the art for this type of element" (col. 8, lines 30-31). In view of each of Kaido et al., Hashimura et al. and the admitted state of the prior art (paragraph [0002]-[0003] in the specification), it is apparent that such a liner configuration, including the use of a thermoplastic elastomer and adhesive, is well known to be a suitable and effective tire liner material and configuration. Use of such would therefore have been obvious. A process as required by claim 1 would therefore have been obvious. As to claims 3 and 5, the particular adhesive characteristics and liner thickness would have been selected by the artisan through routine optimization. Note also Kaido et al. suggests a suitable adhesive has a Tg less than 40^0C (col. 7, lines 8-16). As to claim 4, the particular

heating would have been dictated by the materials selected. Further, insofar as the main function of the initial preheating is apparently to help speed the evaporation of solvent (col. 9, lines 13-22), selection of values consistent with the claimed range would have been obvious especially in order to avoid premature vulcanization in the nest step (described as occurring as low as 80 ^{0}C - col. 6, lines 15-23).

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura et al. (US 2002/0033557) taken in view of Conger et al. (US 2004/0123936) and Caretta et al. (US 6,409,959).

Hashimura et al. discloses a method of manufacturing a pneumatic tire having an innerliner formed of thermoplastic elastomer (e.g. paragraph [0015]), comprising the steps of: placing the innerliner on the surface of the tire building drum (fig. 1a), the innerliner being cylindrically shaped and having a radially outer surface to which an adhesive has been applied (e.g. paragraph [0034]); disposing uncured tire components radially outwardly of the innerliner to form a green tire (e.g. figs. 1b/c); and curing the green tire. This reference therefore suggests a method as claimed except it does not suggest heating the surface of the drum in advance. Conger et al. is also directed to forming tires by first applying the innerliner and in particular suggests it to be desirable to initially precure at least the inner surface of the innerliner by contact with a heated drum in order to render the liner impermeable to curing fluids and thereby allow a bladderless cure (e.g. paragraph [0009]). Caretta et al. '959, as already described, discloses a similar processing to effect precure of the liner layers, including preheating of the drum/former. To precure the innerliner in Hashimura et al. by preheating the

drum would therefore have been obvious and expected to provide an ability to effect a bladderless cure. A process as required by claim 1 would therefore have been obvious.

As to claim 2, this claim defines the well known, conventional and obvious tire building steps when a carcass is initially cylindrically formed, as in Hashimura et al. and Conger et al. As to claims 3 and 5, the particular adhesive characteristics and liner thickness would have been selected by the artisan through routine optimization. Note also that Hashimura et la. suggests 100 micron thickness in the examples. As to claim 4, the particular heating would have been dictated by the materials selected and been routinely and readily optimized for only the expected and predictable results.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Soulalioux et al. (US 6,468,062 - esp. fig. 6) and JP 6-234172 are other examples of heated tire building drums but are at present no more relevant than the applied prior art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
June 21, 2008